

### **REMARKS**

The enclosed is responsive to the Examiner's Office Action mailed on January 25, 2008. At the time the Examiner mailed the Office Action, claims 1-31 were pending. By way of the present response applicant has: 1) amended claims 1, 3-7, 9, 19-26, and 29-30; and 2) added no claims; and 3) canceled claims 10-18 and 31. As such, claims 1-9 and 19-30 are now pending.

Reconsideration of this application is respectfully requested.

### **Claim Rejections - 35 U.S.C. §101**

Claims 1-19 and 31 have been rejected under 35 U.S.C. §101 as failing to be tangibly embodied or include any recited hardware as part of the apparatus. Applicants respectfully submit that no such requirement exists in the rules or regulations. Furthermore, Applicant respectfully submits that claim 1 recites hardware components. One of ordinary skill in the art would recognize that queues, a comparator, and a throttle, as described in the present application all can be implemented in hardware, as well as software. The features of claim 1 are not limited to data structures or abstract ideas.

Figure 2 of the present application illustrates an embodiment as described by claims 1-9 and 19. Each component of FIDO Monitor 200 represents a separate module that can be implemented in hardware. Although the claims describe steps or functions of the hardware modules,

a claimed invention may be a combination of devices that appear to be directed to a machine and one or more steps of the functions performed by the machine. Such instances of mixed attributes, although potentially confusing as to which category of patentable subject matter the claim belongs, does not affect the analysis to be performed by USPTO personnel. Note that an apparatus claim with process steps is not classified as a “hybrid” claim; instead, it is simply an apparatus claim including functional limitations.

(MPEP 2106 IV. B).

Claims 2-9 and 19 are dependent upon independent claim 1. Applicant cancelled claims 10-18 and 31. Accordingly, Applicant respectfully submits that the Office Action’s rejection under 35 U.S.C. §101 of the claims as software per se has been overcome.

Claims 1-31 have been rejected under 35 U.S.C. §101 as being directed to an abstract idea. As discussed above, claims 1-9 and 19 recite hardware components and the functions performed by them. Applicant respectfully submits that the reduction of the number of connections available on the apparatus is a useful, tangible, and concrete result. For example, reducing the number of connections can correct for overwhelmed resources within the apparatus. (Detailed Description, page 5)

Similarly, claims 20-30 recite a method that reduces a number of tasks executed by a system, which is a useful, tangible, and concrete result. Accordingly, Applicant respectfully submits that the Office Action’s rejection of under 35 U.S.C. §101 has been overcome.

### **Claim Rejections - 35 U.S.C. §112**

Claims 1-31 (specifically independent claims 1, 10, 20, and 31) have been rejected under 35 U.S.C. §112 as failing to comply with the enablement requirement.

Regarding claim 1, the Office Action states that

it is unclear how queues are used to track rate of task completions <i.e. is there a monitor that calculates rate of task completion at specified time intervals, and the result of the calculation gets queued up one after another?>. Furthermore, it is ambiguous as to what is meant by “a current rate of task completion” <i.e. is it how much time it’s taking to finish a task? Or is it the amount of tasks finished per second?>.

(Office Action mailed 1/25/08, pages 3-4).

Applicant respectfully disagrees with the Office Action’s assertion and respectfully submits that one of ordinary skill in the art could practice claim 1 without undue experimentation based upon the detailed description of the present application.

For example, the detailed description includes the following:

“Timer 240 obtains from resource manager 270 the starting and ending time for a resource use. The time 240 calculates the length of time a resource was in use. In one embodiment, the time starts when a resource is granted to a request, and ends when the resource is released. The time is added to the measure queue 220.”

(Detailed Description, page 7, paragraph [0023]).

The above quoted section of the detailed description is one embodiment of determining the rate of task completion (see also Claim 3: “wherein tracking a current rate of task completion in a first queue comprises: determining a length of time a connection is used and inserting the time into the first queue.”). Alternatively, one of

ordinary skill in the art could, without undue experimentation, track the amount of tasks finished per second, or other predetermined amount of time, and utilize that result as the rate of task completion.

The Office Action further stated, regarding claim 1, that “it is unclear how the ‘average of the first queue’ and the ‘average of the second queue’ is calculated and compared <i.e. does each queue hold multiple data points? If so, do all data points in each queue get averaged after the queue has reached its maximum capacity? Are the entries averaged?>.” (Office Action mailed 1/25/08, page 4). Claim 1, as amended, reads in part “compare an **average of values stored in the first queue** and an **average of values stored in the second queue**.” (Claim 1) (emphasis added). The averages are determined and compared when a predetermined number of entries is reached in the first queue. (Detailed Description, page 7, paragraph [0026]).

Regarding claim 20, the Office Action made a similar rejection stating that the average rate of task completion and the average of average rates of task completion were unclear. Claim 20 as amended reads in part: “comparing a current average rate of task completion of a system to an average of averages, **wherein the average of averages is the average of a plurality of the results of each of the current average rate of task completion over time.**” (Claim 20) (emphasis added). As discussed above, one of ordinary skill in the art would understand how to calculate an average rate of task completion based upon the claims and the specification. Additionally, the claim language as amended clarifies the determination of the average of averages.

Applicant has cancelled claims 10 and 31. Accordingly, Applicant respectfully submits that the Office Action's rejection of the claims under 35 U.S.C. §112, first paragraph has been overcome.

Claim 4 has been rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The Office Action stated "it is unclear how this step is performed <i.e. What does it mean to add an average of a queue to another queue? What specific steps are performed to do this?>." (Office Action mailed 1/25/08, page 5).

Applicant respectfully disagrees. Claim 4 as amended reads: "The apparatus of claim 1, wherein the average of values stored in the first queue is inserted into the second queue." It is submitted that one of ordinary skill in the art would understand how to take an average of the values stored in a queue and insert the result into a second queue. Accordingly, Applicant respectfully submits that the Office Action's rejection of claim 4 under 35 U.S.C. §112, second paragraph has been overcome.

#### Claim Rejections - 35 U.S.C. §103(a)

Claims 1-31 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Abbott, et al., U.S. Patent No. 6,314,463 (hereinafter "Abbott") in view of Cooperative Scheduling of Tasks for Networked Uninhabited Autonomous Vehicles, Andrew Sparks, et al., IEEE, 2003 (hereinafter "Sparks").

Applicant respectfully submits that Abbott does not teach or suggest a combination with Sparks and Sparks does not teach or suggest a combination with Abbott. It would be impermissible hindsight, based on Applicant's own disclosure, to combine Abbott with Sparks.

As the Supreme Court recently stated, "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740-41 (2007), quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). Applicant respectfully submits that the Office Action does not set forth a reasoning with a "rational underpinning" for combining the references.

Furthermore, Applicant respectfully asserts that one of ordinary skill in the art would not be motivated to combine the references. Abbott teaches a method and system for measuring queue length and delay in web servers. In contrast, Sparks teaches a model for cooperative scheduling of a set of uninhabited autonomous vehicles ("UAV") (e.g., unpiloted aircraft) collectively performing a set of mission tasks (e.g., surveillance).

Even if Abbott and Sparks were combined, the combination would lack the limitations of independent claims 1 and 20.

Claim 1 as amended reads as follows:

An apparatus comprising:

a first queue to track a current rate of task completion;  
a second queue to track an average rate of task completion over time;  
a comparator to compare an average of values stored in the first queue and an average of values stored in the second queue; and  
a throttle to reduce a number of connections available on the apparatus if the comparator indicates that the average of the first queue is larger than the average of the second queue, wherein the comparator triggers comparisons more often as the number of connections is decreased.

(Claim 1) (emphasis added).

Applicant respectfully submits that the combination of Abbott and Sparks does not teach or suggest triggering comparisons more often as the number of connections is decreased. The Office Action stated that Abbott teaches a trigger mechanism to trigger a comparison, but makes no assertion about triggering comparisons more often as the number of connections is decreased. (Office Action mailed 1/25/08, page 9). Accordingly, Applicant respectfully requests withdrawal of the rejections of claim 1 under 35 U.S.C. § 103(a) as being unpatentable over Abbott and Sparks.

Given that claims 2-9 and 19 are dependent claims with respect to claim 1, either directly or indirectly, and add additional limitations, Applicant submits that claims 2-9 and 19 are not obvious under 35 U.S.C § 103(a) in view of Abbott and Sparks. Accordingly, Applicant respectfully requests withdrawal of the rejections of claims 2-9 and 19 under 35 U.S.C. § 103(a) as being unpatentable over Abbott and Sparks.

Claim 20 reads as follows:

A method of resource allocation comprising:

comparing a current average rate of task completion of a system to an average of averages, wherein the average of averages is the average of a plurality of the results of each of the current average rate of task completion over time;

reducing a number of tasks executed by the system if the current average rate of task completion is larger than the average of averages, wherein the comparison is triggered more frequently as the number of tasks executed is reduced.

(Claim 20) (emphasis added).

Applicant respectfully submits that the combination of Abbott and Sparks does not teach or suggest triggering comparisons more frequently as the number of tasks executed is reduced. The Office Action stated that Abbott teaches a trigger mechanism to trigger a comparison, but makes no assertion about triggering comparisons more frequently as the number of tasks executed is reduced (Office Action mailed 1/25/08, page 9). Accordingly, Applicant respectfully requests withdrawal of the rejections of claim 20 under 35 U.S.C. § 103(a) as being unpatentable over Abbott and Sparks.

Given that claims 21-30 are dependent claims with respect to claim 20, either directly or indirectly, and add additional limitations, Applicant submits that claims 21-30 are not obvious under 35 U.S.C § 103(a) in view of Abbott and Sparks. Accordingly, Applicant respectfully requests withdrawal of the rejections of claims 21-30 under 35 U.S.C. § 103(a) as being unpatentable over Abbott and Sparks.



### **Conclusion**

Applicant respectfully submits that, in view of the arguments set forth herein, the applicable rejections have been overcome.

Pursuant to 37 C.F.R. 1.136(a)(3), Applicant hereby requests and authorizes the U.S. Patent and Trademark Office to (1) treat any concurrent or future reply that requires a petition for extension of time as incorporating a petition for extension of time for the appropriate length of time and (2) charge all required fees, including extension of time fees and fees under 37 C.F.R. 1.16 and 1.17, to Deposit Account No. 02-2666.

Respectfully submitted,

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